

Speleothem paleoclimate records from the Kenyan Indian Ocean coast

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The Indian Ocean coast of Kenya is part of the East African coastal forest, an area of considerable paleoecological interest [1]. Due to moisture sourced from the nearby warm Indian Ocean surface waters, the area receives rainfall, even when inland areas in the horn of Africa do not [1]. This means that the area could have acted as a refugium for water dependent fauna, and remained habitable in times of regional drought [2]. Now it has become clear that hominin fossils are present in this area [3, 4], the relation between paleoclimate and hominin presence in the coastal forest zone needs to be further investigated. However, very few paleoclimate records exist for the coastal zone. Particularly records that span one or more glacial - interglacial cycles are currently not available.

Mesozoic and Cenozoic limestone units in the area are karstified, and many caves formed in the area between Mombasa and Kilifi. Over the past years, we collected speleothem samples from caves and limestone quarries in the area, and we here present the first results of dating and paleoclimatological analysis of these speleothems. The preliminary data indeed suggest that there was enough moisture to allow speleothem growth in the coastal zone, in several time intervals believed to be dry for much of the rest of the horn of Africa.